

Are Teenagers Really Keen Digital Readers?

Adolescent Engagement in Ebook Reading and the Relevance of Paper Books Today

Margaret K. Merga, Edith Cowan University

Abstract: Digital reading technologies may be intuitively appealing. They offer many possibilities, including great potential for interactivity around books, portability of whole libraries in one small reading unit, and almost instant satisfaction of demand for a particular book. Though there is limited research exploring the appeal of digital reading for contemporary adolescents, some schools in the US and Australia have already purged their stock of paper books, exclusively carrying digital books, on the assumption that digital books are more attractive to this demographic, and that transitioning to a purely digital format is progressive. In this paper data from the West Australian Study in Adolescent Book Reading (WASABR) are drawn upon to explore the current level of adolescent engagement in digital reading. Findings suggest that adolescents do not necessarily find eBook reading more appealing than reading paper books.

Introduction

While visiting schools to collect data for the *West Australian Study in Adolescent Book Reading* (WASABR), I was asked by a Head of English to offer an opinion on his plan to have students purchase eBook readers instead of paper books for English. Advantages for mobility and cost were his key considerations; however, as an experienced and responsive educator, he wanted to make sure that he was making the best decision for his students' literacy outcomes. I was reluctant to commit an opinion at that stage, before all of the data were collected and analysed, instead offering only insights into early trends. I promised to furnish him with a more considered argument in the future, and this paper is a response to that promise. While the decision to embrace digital technology for reading is more likely to be the responsibility of Heads of Department in English, rather than individual English teachers, English teachers will still be able to exert influence on the outcomes for their schools. Before this decision can be made, a careful weighing of advantages and disadvantages must be undertaken, and more importantly, the target group, the students themselves, need to be consulted. At this stage, the issue has been raised more often in the media than in empirical research, so the literature review for this area necessarily extends beyond the usual scope.

As technology develops in increasingly rapid bounds, equipping students to be capable and informed users of technology has become a priority for both policy and practice. New Literacy Studies encourage a notion of plurality of 'literacies', contesting the notion of a single, traditional form of literacy. They challenge educators to draw on the experiences of students' literacy engagement in technology, such as computer games and social networking, encouraging educators to 'appreciate that literacy exists outside of school' (Rowse, 2006, p. 1). Leu et al. state that 'today, reading, reading instruction, and more broadly conceived notions of literacy and literacy instruction are being defined by change in even more profound ways as

new technologies require new literacies to effectively exploit their potentials' (2004, p. 1570). Educators are exhorted to support students to 'become proficient in the new literacies of 21st-century technologies', with literacy educators given 'a responsibility to integrate these new literacies into the curriculum to prepare students for successful civic participation in a global environment' (IRA, 2009). Moving from traditional books to eBook readers can be seen as responsive to fostering students' understanding of this new technology. The move may also be positioned as a step toward meeting students where they are most comfortable, utilising more advanced technology.

Prensky characterised the current generation of adolescents as Digital Natives, who are 'all 'native speakers' of the digital language of computers, video games and the internet' (2001, p. 2). He elaborates that:

Digital Natives are used to receiving information really fast. They like to parallel process and multi-task. They prefer their graphics before their text rather than the opposite. They prefer random access (like hypertext). They function best when networked. They thrive on instant gratification and frequent rewards. They prefer games to 'serious' work. (pp. 3–4)

Subsequent research examining patterns of use in the so-called Digital Natives generation suggests that this group is a far more heterogeneous group than Prensky contends, leading subsequent commentators to challenge the confidence with which Prensky levels his comparatively unsubstantiated assertions. Bennett, Maton & Kervin (2008) contest the validity of Prensky's considerable influence, suggesting that it has induced 'an academic form of moral panic' (p. 782). They note that this panic is characterised by 'a series of strongly bounded divides: between a new generation and all previous generations; between the technically adept and those who are not; and between learners and teachers', with an additional divide then created between those who accept 'the digital native phenomenon' and those who adopt a more critical stance (p. 782). Prensky's views promoted a notion of a progressive teacher who embraces technology uncritically and whole-heartedly; critics of this stance risk being labeled unprogressive and unresponsive. Most significantly, generalising the technological proficiency and preferences of the current generation of adolescents has the potential to do them a disservice, as their true preferences and proficiencies never need to be analysed or understood if they are already assumed. While it may be easier to perceive adolescents

as a homogenous group of Digital Natives, failing to explore the differences in this heterogeneous group could potentially lead to their needs and preferences being misunderstood.

Prensky has been influential in consideration of the value of eBook technology. He has been one of the most vociferous proponents of digital media, suggesting more recently that in an ideal 'bookless college', students found with a physical book would have it 'confiscated (in return for an electronic version)' (2011). A physical book-free campus 'makes a bold statement about the importance of moving education into the future' in that it is 'only one step removed from saying 'We no longer accept theses on scrolls, papyrus, or clay tablets'' (2011).

These views are reflected by researchers such as Edwards, who suggests that the key to student apathy toward reading at school lies in the fact that 'we still use print books in classes when students are more comfortable using digital devices', dramatically characterising printed books as a 'step toward the Stone Age' (2013, p. 136). Edward's study focused on the experiences of a very small sample (n=11) of students who received a 'sales pitch' from him, grooming them to have a favourable position toward the very eBook readers he claimed to be exploring their attitudes toward (2013).

Positioning the book as an antiquated technology is not new. Historically, technologies from the newspaper to the phonograph were anticipated to supersede the book (Carr, 2010; Price, 2012), however, the book has been resilient. The latest challenge to the traditional book is perhaps the most compelling, as it is from a new technological form of the traditional book – the eBook. As a convenient, portable form of the book, which can almost instantly gratify demand for a book, the eBook has considerable appeal. However, claims that it is more environmentally friendly than paper books have not yet been substantiated (Moran, 2012), and eBooks are not necessarily more affordable than their paper book counterparts (Bentley, 2012).

It is also argued that reading an interactive eBook can provide a reading experience with 'added value', in that students can go online and enjoy a fully immersive user experience which involves online interactivity around the book (Baddely, 2013; Itzkovich, 2012). Interactive books first became popular in the 1990s with CD-ROMs, though compared to current models that utilise the internet, they provided a comparatively 'closed' experience. Whether coupling online activity with a reading experience is beneficial is a matter of

contention; built-in annotations can be distracting and 'detract from the intimacy' of a reading experience, with the notion that books that aren't 'fully immersive unless they are interactive' problematic (Baddley, 2013). Digital reading has the potential to transform a 'deep' reading experience, where students are fully focused on the task of reading, into an interactive experience, which enables readers to make meaning of texts through alternative routes, which do not stem directly from reading the book. Little consideration is given to the consequences of transforming the nature of the reading experience, particularly with regards to cognitive benefit for readers. For instance, if readers transition from reading to a combination of viewing and skimming text instead, it is likely that there is a significant shift in cognitive demand.

Research into adolescent preferences for digital over traditional book forms is scarce. While the most recent Australian publication on teenagers' reading is comprehensive, it contains no discussion of the e-reader phenomenon (Manuel & Brindley, 2012). Available findings tend to not be supportive of a widespread acceptance of digital reading among secondary students. A large study in the US sought to uncover the format preferences in different age groups by examining what kinds of formats had been read over the 12 months prior to the survey. For ages 16–17, 77% of students had read a print book, 12% had read an eBook, and 10% had used an audio book (Zickuhr et al., 2012). These findings suggest that eBook reading rates are not high, despite the fact that 93% of US teens have a computer or access to one, and 74% of US teens can access the internet on a cell phone, tablet, or other mobile device (Madden, 2013), implying that it is not access that is limiting engagement. Similar findings emerged in recent research with a younger cohort. The study found that while nearly two thirds of young children (2–10-year-olds) in the US had access to a device with eReading capacity, children were only spending 5 minutes a day reading eBooks on them, compared to 29 minutes a day reading in print (Rideout, 2014). While data about rising Young Adult (YA) eBook sales is often used to justify the assertion that young adults like reading eBooks, research suggests that 55% of YA books are bought by adults, and of that group, 78% are purchasing these books for their personal reading ('New', 2012). This research was instigated as a result of a noted 'disparity between the number of YA e-books being purchased and the relatively low number of kids who claim to read e-books' (2012).

In contemporary Western society there has been resurgence in the book as a centerpiece in youth popular culture, as it has generated substantial commercial phenomena, such as *Harry Potter*, *Twilight* and *Hunger Games*. At the same time, young people world-wide are said to be increasingly aliterate, the condition in which they have the skills required to read, but not the will to engage in reading (Maynard, Mackay & Smyth, 2008; Nippold, Duthie & Larsen, 2005; OECD, 2010; Stedman 2009). Rising aliteracy is a significant cause for concern, as recreational reading has been found, both locally and globally, to promote improvement across a range of literacy indicators (Anderson, Wilson & Fielding, 1988; Clark & De Zoysa, 2011; OECD, 2010; Samuels & Wu, 2001). While fiction books are deemed to be the type of text that offers the greatest benefit for literacy outcomes (Baer, Baldi, Ayotte & Green, 2007; OECD, 2010), there is a distinct emphasis on reading for information, rather than reading for pleasure, in the rhetoric around the physical to digital switch. Little consideration is being given to how this change will impact on recreational book reading in a cohort where the practice is already dwindling.

Going digital, disposing of paper

In 2009, Cushing Academy in the US was the first school to eliminate physical books in favour of their digital counterparts. The Dean of Academics stated that 'part of our desire to move in this direction is to meet the students where they are most comfortable' (Antolini, 2009). Interestingly, the response from a very small group of students suggests that this view may not be valid:

They like their Kindles, but they don't love them. They say annotating is slow and annoying. And sophomores Cameron Akers and Thomas Pacheco are not totally convinced this change is the way the school should be going. 'Without the books, you kind of lose the feel of a library,' Akers says. 'It's a great study place, but I don't feel like I could read here anymore'. (2009)

This view suggests that in the push to make a library a more instant repository for information, another, equally important goal of the library, to be an environment that fosters reading for pleasure, is perhaps sacrificed.

In 2012, Henley High, a school in South Australia, gave away its library of 10,000 books and replaced them with 16,000 digital books, as the Principal had 'noticed students stop using the library's printed books' a few years prior to the change (Melville-Smith,

2012). This is a move that is being considered by other schools, and has led to the suggestion that the 4 billion dollars of government funds invested in building libraries in Australian schools since 2009 was 'a waste of money' (Bita, 2012).

It appears reasonable to expect that this generation will be willing and enthusiastic consumers of new technology. The current generation of adolescents is well positioned to cope with the increasing digital literacy demands of contemporary Western culture. Access to computers is high in Australia, partially due to the 2007 government investment in the provision of computers to all students in Years 9 to 12 (Gilmore, 2010). Urban Australian adolescents have been found to be generally internet savvy (ABS, 2009), and this has made their preferences easy to generalise, perhaps at the expense of accuracy. The principal of Henley High characterised her students as keen digital readers:

We found that students were accessing books on their phones. In the end it became inevitable. If you look at all the Gen Y kids, why would they look at a picture of the Louvre if they can take a 360-degree tour? (Bita, 2012)

While the principal did not expand on the methodology she employed to reach her conclusions, it seems that this generation is increasingly viewed as a homogeneous group of children who will uniformly prefer to read eBooks.

South Korea is at the forefront of progression toward digitisation of books in schools. However, it has encountered unexpected issues after launching its ambitious plan to digitise its entire primary and secondary education curriculum by 2015. The key concern is that 'students might benefit from less exposure to gadgets, not more' (Harlan, 2012). Research suggests that there has been a surge in rates of internet addiction in young South Koreans, with nearly 8% of children between the age of five and nine exhibiting the traits of internet addiction which include anxiety and depression when deprived of internet access ('More', 2013). In addition, a study found that nearly a third (30.8%) of South Korean adolescents were addicted to the internet, a condition that was found to correlate with depressive symptoms (Ha et al., 2007). With 8%–12% of US children said to be experiencing internet addiction, US experts have begun to urge parents to mediate internet usage so 'children get the good aspects of it without the bad' (Waldron, 2010). It should be noted that this condition is not yet a 'recognised' disorder, though it has been reported

that The American Psychiatric Association is considering the addition of 'internet use disorder' to the newest edition of the Diagnostic and Statistical Manual of Mental Disorders (Li, 2012).

It is clear that research lags behind perceived innovation in this area. This year sees the development of the first 'bookless' digital library in the US, which is said to 'keep libraries relevant for future generations' ('Texas', 2013). The digital libraries in schools and the community are no doubt efficient and interactive repositories of information. Whether or not they are environments that promote reading for pleasure, and whether or not they cater to the diverse interest of the current generation, remains to be seen.

The study

As part of the *West Australian Study in Adolescent Book Reading* (WASABR), data was gathered from Year 8 and Year 10 students across 20 schools throughout Western Australia. Both quantitative and qualitative data were obtained around current engagement in eReading technologies. This paper presents findings centered on student engagement in digital reading, with consideration of what students find attractive about books and book reading. The focus of the study was reading for pleasure, rather than reading for information.

Research instruments

The quantitative component of the study was a survey containing 41 questions that were primarily answered on Likert-type scales. Surveys were either completed online, using Qualtrics survey software, or on paper, depending on the school's preference. This data was stored in Qualtrics. N=520 survey responses were recorded.

The qualitative component consisted of:

1. An open field at the end of the survey, which invited spontaneous, undirected input on any of the survey topics;
2. In-depth interviews. One student from each participating class was randomly selected to participate in this interview where possible, and a total of n=34 in-depth interviews were undertaken. These flexibly adhered to an interview schedule with regular departures to allow for an emic focus (Schutt, 2012). The interviews were digitally recorded and transcribed using Express Scribe software. Data was then coded using TAMS Analyzer qualitative coding software.

Participants

Twenty schools participated in the study. They were sampled to be representative of the diverse general population of Western Australia. The sample included 2 single-sex and 18 co-educational schools, 13 government and 7 non-government schools, 3 Metropolitan Teaching Program (Band A) schools (which are also known as hard-to-staff schools) and 4 schools from outside the Perth metropolitan area. In most cases, one class of Year 8 students and one class of Year 10 students participated per school. There were two exceptions to this format: at school G, 2 Year 8 classes participated, and at school F, additional Year 8 and Year 10 students were permitted, due to sample size constraints at similar schools. Students were all aged 13–16 years at the time of the study.

Method

The study was piloted in Term 3 of 2012, at a school in the Perth metropolitan area. Research instruments were revised after the pilot, and resubmitted for approval to the relevant bodies.

All data used in the final data set was collected in Term 4 of 2012. Schools were approached via email with a detailed information letter and a Site Manager Consent form. The 20 consenting schools were then mailed Parent and Student Consent Forms, as well as information letters for the prospective participants and their parents. Only consenting students with both individual and parent consent were eligible to participate in the study.

Analysis

Survey data was stored in Qualtrics. Early trends in the raw data were identified through the generation of Qualtrics reporting, which included basic statistics (mean, variance, standard deviation) as well a graphic representation of the data in the form of tables and graphs.

Interview data was transcribed using the Express Scribe application, and then coded using TAMS analyzer application. Constant comparative analysis (Boeije, 2002; Kolb, 2012) was used to identify emerging trends, essentially to 'discern conceptual similarities, to refine the discriminative power of categories, and to discover patterns' (Tesch, 1990). While I was very familiar with the research around adolescent literacy, an emic focus was adopted so that the participants' viewpoints were foregrounded (Schutt, 2012). The codes in the qualitative data emerged primarily

from the students' words, rather than common issues that emerged in the literature. Indeed, there is a paucity of research that examines adolescents' perceptions of digital technology, as much of the available research was commissioned for commercial purposes and thus must be used with care. Codes emerged from an inductive process, by which important categories in the data tended to be revisited by multiple interviewees.

This article focuses on the quantitative data derived from the surveys, and the qualitative data originating from the interviews and the qualitative field of the surveys.

In the interviews and qualitative open field in the survey, students were not specifically asked about their preferences for digital reading or paper book reading as part of the semi-structured interview schedule. In the interviews, these preferences were spontaneously volunteered or elicited by me as a product of the students' direction of the discussion. 'Progressive focusing' (Schutt, 2012, p. 322) was continuously undertaken by the researcher over the duration of the research project, and as the topic of digital reading became a recurring theme, I became quicker to pursue this line of interest in subsequent interviews. Thus I was willing to adjust the data collection process when it became apparent that additional concepts need to be explored (2012). Of the $n=182$ anonymous responses in the qualitative field of the survey, some students chose to directly address their preference for a specific book type, and thus this data has also been used. I also needed to be conscious of the pre-conceptions I brought with me to the research project, as a former English teacher, a researcher, and also as a keen reader of both digital books (I own and regularly use both a Kindle and Kobo eReader) and paper books.

For the purposes of this article, qualitative material is presented in the form of edited verbatim, in that spelling and grammar have been corrected where possible without impacting on the meaning of the participants.

Survey findings

The data from the WASABR suggests the majority of the students in the study were not using digital reading technology to read for pleasure.

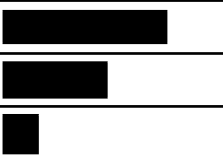
eBook readers

To determine if they had access to an eReading device, students were asked, 'Do you have regular access to an eBook reader such as a Kindle, iPad or other tablet?'

Responses were collected from n=518 students. Slightly over half of students had access to these devices (52%).

Only students who answered in the affirmative were able to progress to the following questions, concerning the frequency of their device usage for reading books. These students were asked 'If yes, do you read books on your eBook reader?' This frequency can be seen below, in Figure 1.

Figure 1. Frequency of reading books on eBook reader or tablet


#	Answer		Response	%
1	Not At All		138	53%
2	Occasionally		90	34%
3	Frequently		34	13%
	Total		262	100%

With more than half of students (53%) never using their eReading device for book reading, it was apparent that merely providing access to an eReading device does not, in itself, solve the issue of aliteracy.

Computers

Almost all (98%) claimed to have regular access to a computer in their home. Of these students, the majority (68%) did not use their computer to read books, as is apparent in Figure 2. below.

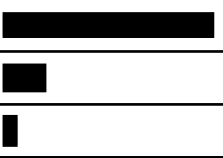
Figure 2. Frequency of reading books online/ on the computer

#	Answer		Response	%
1	Not At All		342	68%
2	Occasionally		123	25%
3	Frequently		35	7%
	Total		500	100%

Mobile phones

While most students had a mobile phone of their own (89%), very few of these students (13%) ever used it to read books, as can be seen in Figure 3.

Figure 3. Frequency of reading books on mobile phone

#	Answer		Response	%
1	Not At All		395	86%
2	Occasionally		48	10%
3	Frequently		16	3%
	Total		459	100%

Device preferences

Of the 3 device types (reader/tablet, computer, mobile), student were least likely to read on their phones, and most likely to read using an eReading device such 'as a Kindle, iPad or other tablet'. This contrasts with recent US research findings around device preferences, where the majority of digital readers preferred to read on their computer (55%), with cell phone ranking second (41%), e-reader third (23%) and tablet last (16%) (Zickuhr, 2012). It should however be noted that the demographic surveyed in the US study extended beyond high school (16–29).

Underutilisation of digital reading technology

Only 13% of students were frequent book readers using an eReading device, or a device such as a tablet with an eReading capacity. These findings strongly suggested that students were underutilising eReading technologies, even when they had ready access to them, for book reading purposes.

Avid readers

To ensure that these results were not merely a product of ambivalence towards reading, the usage of these devices by the avid readers who participated in the study were isolated from the whole data set and analysed. This was important, as the cohort studied in the WASABR could not be generally characterised as keen readers (Merga, in press). For the purposes of analysis, avid readers were defined as students who read books for pleasure at least twice a week (n=189).

While avid readers predictably had higher rates of device usage for book reading, only 59% of these students had access to an eReader device, and only 24% of these students frequently read books using the device. While 98% of avid readers had access to a computer, only 12% of avid readers frequently read books on it, and while 88% of avid readers had access to a mobile phone, only 7% used it frequently for reading books. It can thus be assumed that these frequent book readers exhibit a continued marked preference for traditional book reading practices.

eBook reading: for and against

Few of the students interviewed actively read books as eBooks. While a number of the student interviewed were avid readers, most gravitated toward the traditional book form, with a few notable exceptions. Some students were keen digital readers, with one student declaring:

Online when I read books I usually go on apps. I read completed books and finish them the same day I read them. I like reading in general; it keeps me entertained and it is a hobby. When I have nothing to do or free time reading is usually my first option. I read online more than actual physical books.

The virtual immediacy of digital books catered well for the high volume of books required by avid readers. One female Year 8 student read books on her iPad to meet her voracious demand:

- I: And how many books would you say you read on your tablet?
- S: Well ... 'cos my mum always ... always gets them on there as well, I probably have like- right now I have about a hundred on there.
- I: How often do you get a new one?
- S: Well, when I finish the one I'm on, which I've only got a few pages left, I'll get a new one soon.
- I: So once you finish one, do you normally get a new one, or ...?
- S: Yeah, I normally get a new one, and start again.
- I: Right – with any kind of gap in-between?
- S: Not really!

This student was not an exclusive digital reader, however her most regular source of books was a bookstore. She also occasionally visited the library to borrow books.

Other students were more conditional in their endorsement of digital books. One Year 10 student described using the internet as an important source of books, though it was her 'last choice' for obtaining books:

- S: So, if I really want to read it, I'll go and buy it. And if not, I start reading *50 Shades of Gray* online. So it's either, if I've got it, or if it's online, yeah. And if not, I'll go buy it.
- I: So where do you find them online?
- S: Not a particular site, I'll just try to see what I can do, look it up. Some things haven't been that much of an interest, where I've looked it up online, that I haven't already got, haven't just bought. So, I just search and finally found a site that had the book up there.
- I: And then do you download the whole book, or part of the book? How does it work?
- S: It's just ... I don't know, it's weird, it ... it's just a site, and it has the book there just to read, you don't have to download it or anything, which is weird.

I'm ... I'm worried that someone has actually just made a site and a ... I think what they do is just write it literally word for word, what they've read out of the book.

- I: That must take a long time.
- S: It looks like that's what they might have done, but, yet again, I don't know, because I don't think the book I'm reading has been let out onto the internet.
- I: Oh, okay.
- S: Apparently not, so. But now I have the book, so.
- I: So sometimes do you start reading it online and then buy it, or ...?
- S: Yeah, more so, like online is my last choice. If there's no way I can, I have it, I will start reading it online, and then, do everything I can to try to get the book, because I'd rather own something than just use it.

This student would rather 'own something than just use it'. This perspective was interesting in light of the fact that Amazon eBooks are 'borrowed' not 'bought', similar to songs in a person's iTunes catalogue. Kindle content is 'licensed' to a reader, but not sold to them (Charman-Anderson, 2012).

It is also noteworthy that the student chose to read *50 Shades of Grey*, an erotic romance novel, in the relative anonymity of an online platform. At the time of the interview, the book was readily available in Western Australia, and not just at bookstores. Popular supermarket chains were also carrying copies. This suggests that the privacy and anonymity of reading on an computer without a visible identifying cover may be appealing for reading certain types of books. Prior to the interview, this student mentioned that her mother was not happy with her reading this particular book, and thus the digital format could potentially preserve her privacy, and perhaps limit any repercussions of reading a book that did not have parental sanction.

This conversation also highlights issues of legality. This student suspected that she didn't think the book she was reading online 'has been let out onto the internet', perhaps suggesting some level of consciousness that she was reading a pirated copy. Further research into students' understanding of the legal issues surrounding the downloading of online books would be worthwhile.

In contrast, other students offered views that paper books were 'better' for a variety of reasons. One student stated that 'reading is difficult because on your laptop your eyes get sore from it', while another offered the following comparison:

I also read a lot of books online but it's not as good as having an actual book to hold and mark your page. It's also great having it to keep, not like an online book forum where they could get lost if something was to happen to the website.

The student appeared to appreciate the concrete physicality of the book in contrast to the more ephemeral digital version.

A Year 8 student described the difficulty she had becoming familiar with eBook technologies. She attempted to download a book onto her iPod, finding it discouraging.

S: Which was really confusing because I thought you could read books on the app, but ... I opened the app and it was like ... download the book. So I was like, 'Okay, we'll see about that'.

A Year 8 male similarly found the availability of online books an issue, stating a preference for paper books, as they are 'a lot more available than the ones online'; finding it 'a bit hard' to locate online books.

The design of digital reading devices and apps are constantly evolving, and some current features are not appealing to adolescent readers. A Year 8 male complained of difficulty with the iPad book-marking feature:

S: I prefer reading in books than my iPad, 'cos it's easier to know where I'm up to, 'cos, when, on the iPad you can put a bookmark on it, but it doesn't always stay there. It's annoying, so that's why I'd rather read books.

Knowing 'where I'm up to' was an important part of the aesthetic experience of reading a paper book, and this example illustrated how even the alleged Digital Natives may struggle with eReading technologies.

For some students, blinding the size of the book by reading it in digital format encouraged them to engage with longer texts. The physical size of a book could be a deterrent, with a student explaining, 'I usually get put off by the size of the book', and another stating that 'I enjoy reading big books depending (on) how I feel and how big they are'. The Chambersburg Area Middle School librarian found Kindle use led to students who would normally restrict themselves to smaller books engaging keenly with larger texts:

And when we handed her the Kindle and said she'd have the novel in 30 seconds, she was thrilled. That's a long book, but she won't realise that on the Kindle. And these are the kids who will sometimes pick the skinniest book

possible for reports. But now she comes regularly to the Tuesday and Thursday group and reads (Barack, 2011).

It is likely, however, after the student had been reading for a considerable time on the Kindle, which measures progress by percentage read rather than pages, that the student would notice that she still had a substantial percentage to go. The librarian's speculation that the student wouldn't realise this may be unfounded, though ideally by that point the student would already be committed to continuing the book. Conversely, some students may be reluctant to commit to a book that they cannot immediately measure for length.

The aesthetic experience of reading a paper book was the attraction for many young readers, with the cover of the book ranking highly when students choose books (Rinehart et al., 1998). The 'look' of a book, which is primarily dictated by the cover, is not a key feature in eBook form. Many features, such as raised titles, cover images, and in-text illustrations, do not translate attractively into electronic images, and thus 'the beauty and intention of a book's design can be lost' (Abram, 2010).

The look of the book was important to many students, with students confessing variations of this statement: 'I kind of look for books that catch your eye and stuff.' One boy described seeking a cover that would enable him to relate to the text, looking for 'a boy my age on the front or something, something that looks like (what) I like, maybe sport'. Without an attractive, appealing front cover, books may be less appealing to students, and books may be less equipped than ever to compete with other recreational pursuits for students' time.

Conclusions

The findings from this study suggest while some students were keen users of digital reading technology, the majority of students with access to these technologies did not utilise them for digital reading purposes. Moreover, most avid readers did not frequently read books in eBook form.

Further research needs to be done in this area before purging libraries of physical books is justified or necessary. An either/or approach need not be the answer. If both digital books and traditional books can be provided, the supply of both is more likely to meet the needs of this heterogeneous group at this point in time. If circulation numbers are down at a library, removing all of the paper books may be

an unnecessarily drastic solution. Strategies such as weeding could be employed. This entails the removal of old books from circulation, so that what remains on display is as appealing as possible (Rogers, 2007).

For some, these may be unexpected findings. However a quick perusal of the internet and comments around eReading suggest that many readers, not just adolescents, are not attracted to eReaders at this stage in their evolution. Subsequent models with more user-friendly interfaces may change this position very quickly. Future eReading devices and apps would do well to consider enhancing the aesthetic experience of digital reading, as the role of the graphic and physical attributes in attracting readers may be significant, though at present the potential for privacy that digital reading devices offer may also be of appeal to readers wishing to engage in texts that may not be acceptable to family or peers. Book covers and illustrations, as well as the size and weight of a book, can all contribute to the attraction of a book for a prospective reader.

A number of issues arise from abandoning paper books entirely in favour of digital books. The question of ownership is significant. Digital books are still very expensive to license. It can be more expensive to license an eBook than to own a paperback version of the same book. With licensing costs still relatively high, the flourishing of online book piracy sites where books can be readily downloaded illegally, at no cost, may prove to be a temptation to students who may not understand intellectual property issues, especially as they have the experience of being able to borrow books from the library at no charge.

The very interactivity that educators such as Edwards (2013) celebrate could also be a huge distraction, and may significantly alter the reading experience. While it may provide rich context and a multi-sensory experience, it may also be a less cognitively demanding experience, and thus be potentially less beneficial. It is also possible that eBooks are more likely to appeal to students reading for information rather than for pleasure, where interactive links and options may provide further, welcome information.

When all reading occurs on a device with web access there may be a temptation to go online, to perform status updates on social networks, check emails and surf the internet. The majority of adolescents surveyed in the WASABR study were keen social networkers, with one third of students spending more than 3 hours social networking each day. The paper book reading experience is screen-free time, away from online distractions.

When research suggests that as children progress from primary school through secondary school, reading time declines because the time children spend online for recreation increases (Scholastic, 2010), does it really make sense to encourage children to migrate their leisure reading from a paper book to a device which will enable them to go off-task? Potentially rising levels of internet addiction in young people and adults (Ha, 2007), and expert recommendations that adults help their children to differentiate between internet use that is related to education and purely entertainment based use (Waldron, 2010), would suggest that there is a need to *decrease* time spent online.

The findings of this study suggest that it is not yet time to abandon the traditional book entirely in favour of the digital book. However, this process has already begun in some contexts. Further ongoing research is urgently needed to address the following questions:

- Do teenagers prefer to exclusively use digital book formats for recreational reading?
- Is the interactive digital reading experience of equal cognitive benefit to paper book reading?

Until these questions are adequately addressed by researchers, discarding paper books entirely in favour of digital works could actually have a detrimental impact on adolescent recreational book reading, and subsequently, on literacy outcomes for adolescents. Though Prensky may deem it as progressive, this approach risks reducing adolescents' access to what still appears to be their preferred book form.

References

- Abram, S. (2010). P-Books vs. E-Books: Death Match? *Information Outlook*, 14 (6), 30–32.
- Anderson, R., Wilson, P., & Fielding, L. (1988). Growth in Reading and How Children Spend Their Time Outside of School. *Reading Research Quarterly*, 23 (3), 285–303.
- Antolini, T. (2009, November 9). Digital School Library Leaves Book Stacks Behind. *National Public Radio*. Retrieved from <http://www.npr.org/templates/story/story.php?storyId=120097876>
- Australian Bureau of Statistics (ABS). (2009). *Children's Participation in Cultural and Leisure Activities*. Canberra, Australia: Australian Bureau of Statistics.
- Baddeley, A. (2013, February 10). Books: THE NEW READING: Ebooks, Kindles and the web. *The Observer*, p. 38.
- Barack, L. (2011, March 1). The Kindles Are Coming: Ereaders and tablets are springing up in schools—and librarians are leading the way. *Library Journal*.

- Retrieved from http://www.libraryjournal.com/slj/home/889110312/the_kindles__are_coming.html.csp
- Bentley, P. (2012, October 1). How a third of bestselling ebooks cost MORE than the same title in hardback. *Daily Mail*. Retrieved from: <http://www.dailymail.co.uk/sciencetech/article-2211022/How-best-selling-ebooks-cost-MORE-title-hardback.html>
- Bitá, N. (2012, May 30). BER waste as schools scrap books. *The Australian*. Retrieved from <http://www.theaustralian.com.au/national-affairs/education/ber-waste-as-schools-scrap-books/story-fn59nlz9-1226373017622>
- Bittman, M., & Siphthorp, M. (2011). Turned on, tuned in or dropped out? Young children's use of television and transmission of social advantage. In *Australian Institute of Family Studies, LSAC Annual Statistical Report* (pp. 43–55). Melbourne, VIC: Australian Institute of Family Studies.
- Boeije, H. (2002). A Purposeful Approach to the Constant Comparative Method in the Analysis of Qualitative Interviews. *Quality & Quantity*, 36, 391–409.
- Carr, N. (2010). *The Shallows: What the Internet Is Doing to Our Brains*. New York: W.W. Norton & Company, Inc.
- Charman-Anderson, S. (2012, October 23). Amazon Ebooks are Borrowed, not Bought. *Forbes*. Retrieved from <http://www.forbes.com/sites/suwcharmananderson/2012/10/23/amazon-ebooks-are-borrowed-not-bought/>
- Clark, C., & De Zoysa, S. (2011). *Mapping the inter-relationships of reading enjoyment, attitudes, behaviour and attainment: An exploratory investigation*. London: National Literacy Trust.
- Edwards, J.T. (2013). Reading Beyond the Borders: Observations of Digital eBook Readers and Adolescent Reading Practices. In J. Whittingham, S. Huffman, W. Rickman & W. Wiedmaier. (Eds.), *Technological Tools for the Literacy Classroom* (pp. 135–158). Hershey, PA: IGI Global.
- Gilmore, H. (2010, August 16). Laptop vision becomes a tangled web. *The Sydney Morning Herald*. Retrieved from <http://www.smh.com.au/technology/technology-news/laptop-vision-becomes-a-tangled-web-20100816-125kj.html>
- Ha, J.H., Kim, S.Y., Bae, S.C., Bae, S., Kim, H. Sim, M. Lyoo, I.K., & Cho, S.C. (2007). Depression and Internet Addiction in Adolescents. *Psychopathology*, 40, 424–430.
- Harlan, C. (2012, March 24). In South Korean classrooms, digital textbook revolution meets some resistance. *The Washington Post*. Retrieved from http://articles.washingtonpost.com/2012-03-24/world/35450448_1_textbooks-digital-program-digital-education/2
- Hearst, A. (2013, March 17). Video: What Electronic-Book Interfaces Looked Like 20 Years Ago. [Web log comment]. Retrieved from http://andrewhearst.com/blog/2013/03/video_electronic_book_interfaces_the_voyager_company
- International Reading Association (IRA). (2009). *New Literacies and 21st Century Technologies: A Position Statement of the International Reading Association*. Newark, DE: International Reading Association.
- Itzkovich, A. (2012, April 12). Interactive eBook Apps: The Reinvention of Reading and Interactivity. *UX Magazine*. Retrieved from <http://uxmag.com/articles/interactive-ebook-apps-the-reinvention-of-reading-and-interactivity>
- Kolb, S.M. (2012). Grounded Theory and the Constant Comparative Method: Valid Research Strategies for Educators. *Journal of Emerging Trends in Educational Research and Policy Studies*, 3 (1), 83– 86.
- Leu, D.J., Kinzer, C.K., Coiro, J.L., & Cammack, D.W. (2004). Towards a theory of new literacies emerging from the internet and other information and communication technologies. In N.J. Unrau & R.B. Ruddell (Eds.), *Theoretical Models and Processes of Reading* (pp. 1570–1613). Newark, DE: International Reading Association.
- Li, D.K. (2012, October 2). Inter-nuts! Web addiction new psych illness. *New York Post*. Retrieved from http://www.nypost.com/p/news/international/inter_nuts_web_addiction_new_psych_wexccxtsEGfLHIX3VNs1KJ?utm_medium=rss&utm_content=International
- Maynard, S., Mackay, S., & Smyth, F. (2008). A survey of young people's reading in England: Borrowing and choosing books. *Journal of Librarianship and Information Science*, 40 (4), 239–253.
- Madden, M., Lenhart, A., Duggan, M., Cortesi, S., & Gasser, U. (2013). *Teens and Technology 2013*. The Berkman Center for Internet & Society at Harvard University. Retrieved from http://www.pewinternet.org/~media/Files/Reports/2013/PIP_TeensandTechnology2013.pdf
- Manuel, J., & Brindley, S. (Eds.). (2012). *Teenagers and Reading: Literary Heritages, Cultural Contexts and Contemporary Reading Practices*. Kent Town, South Australia: Wakefield Press.
- Merga, M.K. (in press). Are Western Australian adolescents keen book readers? *Australian Journal of Language and Literacy*.
- Melville-Smith, A. (2012, June 1). Community 'behind' Henley High School's no books policy, its Principal says. *The Adelaide Advertiser*. Retrieved from <http://www.adelaidenow.com.au/news/south-australia/community-behind-henley-high-schools-no-books-policy-its-principal-says/story-e6frea83-1226379666223>
- Moran, N. (2012, May 1). Are eReaders Really Green? *The Millions*. Retrieved from <http://www.themillions.com/2012/05/are-ereaders-really-green.html>
- New study: 55% of YA Books Bought by Adults. (2012, September 13). *Publishers Weekly*. Retrieved from <http://www.publishersweekly.com/pw/by-topic/childrens/childrens-industry-news/article/53937-new-study-55-of-ya-books-bought-by-adults.html>
- Nieuwenhuizen, A. (2001). *Young Australians Reading: from keen to reluctant readers*. Melbourne, Victoria: Australian Centre for Youth Literature.
- Nippold, M., Duthie, J., & Larsen, J. (2005). Literacy as a leisure activity: Free-time preferences of older children

- and young adolescents. *Language, Speech, and Hearing Services in Schools*, 36 (2), 93–102.
- Organisation for Economic Co-operation and Development (OECD). (2010). *PISA 2009 Results: Executive Summary*. Washington DC: OECD.
- Prensky, M. (2001). Digital Natives, Digital Immigrants, Part 1. *On the Horizon*, 9 (5), 2–6.
- Prensky, M. (2011). In the 21st-Century University, Let's Ban (Paper) books. *The Chronicle of Higher Education*, 58 (3).
- Price, L. (2012, August 10). Dead Again. *The New York Times*. Retrieved from http://www.nytimes.com/2012/08/12/books/review/the-death-of-the-book-through-the-ages.html?pagewanted=all&_r=0
- Rideout, V. (2014). *Learning at Home: Families' Educational Media Use in America*. New York: Joan Ganz Cooney Center.
- Rinehart, S.D., Gerlach, J.M., Wisell, D.L., & Welker, W.A. (1998). Would I like to read this book? Eighth graders' use of book cover clues to help choose recreational reading. *Literacy Research and Instruction*, 37 (4), 263–280.
- Rogers, T. (2007). Weeding: Bringing a great practice to light. *PNLA Quarterly*, 71 (2), 8–9.
- Rowell, J. (2006). Literacy revisited. *Orbit*, 36 (1), 1.
- Samuels, S.J., & Wu, Y. (2001). *How the Amount of Time Spent on Independent Reading Affects Reading Achievement: A Response to the National Reading Panel*. Minnesota: University of Minnesota.
- Scholastic Inc. (2010). *Kids and Family Reading Report*. California, USA: Scholastic Inc.
- Schutt, R.K. (2012). *Investigating the Social World*. Massachusetts, Boston: SAGE Publications, Inc.
- Stedman, L. (2009). *The NAEP Long-Term Trend Assessment: A Review of Its Transformation, Use, and Findings*. Washington DC: National Assessment Governing Board.
- Tesch, R. (1990). *Qualitative Research. Analysis Types and Software*. London: Falmer Press.
- Texas' Bexar County plans to introduce 'bookless' digital libraries. (2013, January 14). *News Limited*. Retrieved from <http://www.news.com.au/technology/texas-bexar-county-plans-to-introduce-bookless-digital-libraries/story-e6frfro0-1226553269403>
- Waldron, H. (2010). Internet addiction a real problem for U.S. kids. *American Academy of Paediatrics News*, 31 (5), 26.
- Zickuhr, K., Rainie, L., Purcell, K., Madden, M., & Brenner, J. (2012). *Younger Americans' Reading and Library Habits. Pew Internet & American Life Project*. Retrieved from <http://files.eric.ed.gov/fulltext/ED537514.pdf>

Margaret K. Merga is a doctoral candidate at Edith Cowan University, WA. She has also published articles on adolescent reading in *English in Education* and the *Journal of Adolescent and Adult Literacy*. Contact Margaret at: mmerga@our.ecu.edu.au

